Controlling
Page Layout

Objectives

► **Understand layout tools**
► **Create a navigation bar**
► **Create a frameset**
► **Target links**
► **Format frame borders**
► **Create a structuring table**
► **Add a two-toned background**
► **Create a template**

HTML was originally designed for identifying the content of each element on a Web page, rather than specifying how an element should appear in a browser. In early versions of the language, this underlying intent meant that Web designers couldn't implement the layout and readability features routinely found in print media. However, in the course of updates and extensions to HTML, the language added two features that opened the door to high-quality page layout on the Web: frames and tables. **Frames** allow you to divide the browser window into parts, each of which appears as a separate HTML document. Tables, in addition to displaying related data within a grid, also can create a page layout much like those created with frames. However, pages using tables can be easier to navigate than pages with frames, and are accessible to more users. Jaime Chavez works in the Information Systems department at Nomad Ltd, a travel and sporting goods company. He is responsible for converting Nomad's Web site to a new design, and for making the pages easier for users to navigate.

Understanding Layout Tools

An important feature of any visual layout designed to convey information is the layout's division into discrete sections. While you can divide a page using HTML elements such as headings and line breaks, such a format is **linear**, meaning it limits you to stacking page elements above and below each other, and provides few options for horizontal placement. Frames and tables both facilitate more effective layouts in HTML by allowing you to place elements anywhere on the screen, and by providing additional means of indicating divisions between them. In a frames page, such as the one shown in Figure F-1, each section of the page appears as a separate HTML document. A page organized with a table, as shown in Figure F-2, includes the entire page contents in one HTML file. Using either layout tool, you have the choice of displaying or hiding borders, and each option is appropriate for creating different effects. As Jaime prepares to enhance the layout of the Nomad Ltd Web pages, he reviews the principal advantages of laying out a Web site using frames and tables.

Details

Grids

Layouts in print media tend to use a **grid**, which is a set of columns and rows that positions and groups a page's elements. You can easily add a grid to a Web page by creating columns and rows with the HTML table tags. Implementing frames also provides this underlying structure, as each frame can serve as a separate column or row. The ability to create a layout grid is the underlying feature of tables and frames that makes them both especially valuable for page layout.

Unified appearance

As you incorporate more pages into a Web site, it becomes important to ensure that users can easily navigate the site. After following a trail of links away from the home page, a user may wish to explore another area of the site. Rather than requiring users to return to the main page, well-designed sites usually include a **navigation bar**—a set of links to the home page and main sections of the site—which appears on every page. In the most user-friendly sites, the navigation bar, as well as other page elements, appear in the same location on each page, giving all the site's pages a unified appearance. This predictable layout reassures users that they won't get lost, and encourages them to explore the site. You can easily implement a unified appearance on your site by creating a template document that codes only for the site's page structure, and by using this document as the basis for each Web page.

Each frame scrolls independently

CLUES TO USE

Cascading Style Sheets

Although frames and tables both are powerful Web page layout tools, they were created for simpler tasks, and neither offers an exhaustive set of design options. However, HTML has been updated to include **Cascading Style Sheets** (**CSS**), an HTML extension specifically designed for Web page formatting and layout. CSS allows you to specify settings for many properties of page elements, including horizontal and vertical positions. CSS is easy to use because it allows you to indicate values for an element as tag attributes, rather than requiring separate tags. CSS also is more intuitive and easier to implement than any earlier page design schemes. CSS is not consistently implemented in different brands of browsers, however, meaning that most Web users cannot yet reliably view Web pages that use CSS. Frames and tables therefore will remain the dominant tools for effective Web page layout until browsers more universally support CSS.

HTML

Creating a Navigation Bar

Although you can add a simple navigation bar to any page layout, creating a grid layout provides more choices for the bar's formatting and its location on the page. You can position the bar's paragraphs or graphics at the bottom of the screen in a linear layout, but positioning the bar in the same place on each page could require adding imprecise spacing elements, such as line breaks. By contrast, when using a frame or a table you can specify the exact dimensions of each component part, allowing you to easily use a consistent page location. Additionally, in a grid layout you can create a vertical navigation bar, running along the left or right edge of the browser window, and include other page elements alongside it. Jaime begins his redesign by creating a navigation bar which he can then incorporate into the page layout for the Nomad Web site.

Steps 1 2 3 4

1. Start your text editor, open the file **HTM F-1.htm**, then save it as **navbar.htm**
   Jaime created an HTML document containing the link text for a vertical toolbar, the codes for the Nomad Ltd logo, and a site search form.

2. Locate the <IMG> tag that references the graphic gear.gif, click to the left of the opening <, then type **<A HREF="construction.htm">**
   Jaime links the navigation bar elements to a placeholder file until he creates the remaining Web pages for the site.

3. Click to the right of the closing > for the gear.gif <IMG> tag, then type **</A>**

4. Repeat Steps 2 and 3 for the <IMG> tags for the files **travel.gif** and **about.gif**
   The graphics serve as headings that divide the links in the navigation bar by the site's three main sections.

5. Locate the <LI> tag for the text Hiking/Camping, click to the right of the closing >, type **<A HREF="construction.htm">**, click at the end of the same line, then type **</A>**

6. Repeat Step 5 for the remaining list items in the navigation bar's three unordered lists
   Figure F-3 shows the completed code for the links in the navigation bar. Jaime created most of the links with text, rather than graphics, so the Web page's download time is kept to a minimum.

7. Save your work, start your Web browser, cancel any dial-up operations, then open the file **navbar.htm**
   As shown in Figure F-4, the list of links appears on the left edge of the screen, along with the logo and the search form. Jaime can incorporate this navigation bar into the layout for each page in his new site design.

```
<A HREF="construction.htm"><IMG SRC="images/gear.gif" WIDTH="158" HEIGHT="25"
BORDER="0" ALIGN="center" ALT="Gear"></A>

<UL>
  <LI><A HREF="construction.htm">Hiking/Camping</A>
  <LI><A HREF="construction.htm">Biking</A>
  <LI><A HREF="construction.htm">Clothing</A>
  <LI><A HREF="construction.htm">Climbing</A>
  <LI><A HREF="construction.htm">Swimming</A>
  <LI><A HREF="construction.htm">Boating</A>
  <LI><A HREF="construction.htm">Skiing</A>
</UL>

<A HREF="construction.htm"><IMG SRC="images/travel.gif" WIDTH="158"
HEIGHT="25" BORDER="0" ALIGN="center" ALT="Travel"></A>

<UL>
  <LI><A HREF="construction.htm">Leisure tours</A>
  <LI><A HREF="construction.htm">Athlete tours</A>
  <LI><A HREF="construction.htm">Arts tours</A>
  <LI><A HREF="construction.htm">Travel planning</A>
</UL>

<A HREF="construction.htm"><IMG SRC="images/about.
BORDER="0" ALIGN="center" ALT="About Us"></A>

<UL>
```

```
<A HREF="construction.htm"><IMG SRC="images/about.gif" WIDTH="158" HEIGHT="25"
BORDER="0" ALIGN="center" ALT="About Us"></A>

<UL>
  <LI><A HREF="construction.htm">Stores</A>
  <LI><A HREF="construction.htm">History</A>
  <LI><A HREF="construction.htm">Corporate Info</A>
  <LI><A HREF="construction.htm">Contact</A>
</UL>

<H5>updated August 24, 2002</H5>
```
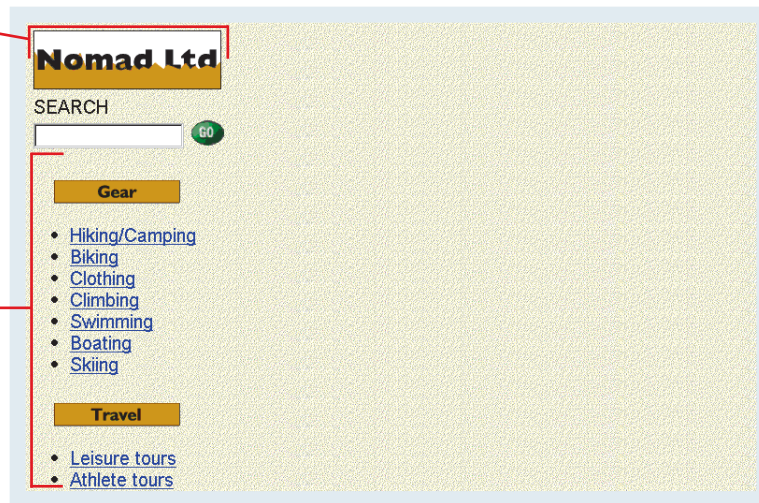
Text and graphics formatted as links

FIGURE F-4: Navigation bar

Contents appear in narrow vertical strip

Text and graphics are linked for easy access to rest of Web site

CLUES TO USE

Creating a horizontal navigation bar

Just as with a vertical navigation bar, you can lay out a navigation bar horizontally using common Web page tags and elements. A vertical configuration often uses a list format, such as ordered or unordered lists, or a series of heading tags. To create a horizontal navigation bar, you can usually insert a unique dividing character between each adjacent set of link text. A character commonly used for this purpose is the **pipe** character (|), which you can type using the button above the Enter key on most keyboards. Figure F-5 shows a text-based horizontal navigation bar that uses pipes to separate adjacent links.

FIGURE F-5: Horizontal navigation bar

2-lines of text links appear horizontally

Text of adjacent links separated by a pipe

Creating a Frameset

In a Web page laid out with frames, each frame displays the contents of a separate HTML document. These component documents are created with the same tags used for standard Web pages. To specify the organization of these files within the browser window—known as a **frameset**—you create a separate HTML document that includes only the page's structural information. Figure F-6 shows the relationship between HTML files in a frames page. The organizing document requires three HTML tags and tag pairs to describe the frame layout. The tags and tag pairs are described in Table F-1, along with their attributes. ▰▰▰ Jaime has divided the contents of his new design into two separate HTML documents, similar to the sketch in Figure F-6. Each document will appear in a frame on the Nomad Ltd home page. Jaime lays out the page by creating a frameset.

Steps 1 2 3 4

1. In your browser, open the file **main.htm**

This is the Nomad Ltd home page that will appear in the right frame of the frameset when users first opens the Nomad Web site. For the content of the left frame, Jaime will use the navigation bar he created.

2. In your text editor, start a new document, if necessary, and save it as **nomad-f1.htm**

3. Type **<HTML>**, press **[Enter]** twice, type **<HEAD>**, press **[Enter]**, type **<TITLE>Nomad Ltd online</TITLE>**, press **[Enter]**, type **</HEAD>**, then press **[Enter]** twice

4. Type **<FRAMESET COLS="235,*" FRAMEBORDER="0">**, then press **[Enter]**

<FRAMESET> is the opening tag that marks the contents of a frameset. In a frameset document, this tag replaces the standard HTML <BODY> tag. You use the COLS attribute to indicate the width of each column, in pixels. Jaime specifies the width of the first column—the navigation bar—as 235 pixels, and uses an asterisk (*) for the width of the second column, indicating that it should occupy the remaining width of the browser window. He sets the FRAMEBORDER attribute equal to zero to remove the default border that appears between frames.

5. Press **[Spacebar]** twice, type **<FRAME SRC="navbar.htm" NAME="nav">**, press **[Enter]**, press **[Spacebar]** twice, type **<FRAME SRC="main.htm" NAME="main">**, press **[Enter]**, type **</FRAMESET>**, then press **[Enter]** twice

Each frame requires a <FRAME> tag that specifies the name and location of its source file using the SRC attribute. It also is important to name each frame using the NAME attribute, so that each frame's hyperlinks work properly.

6. Type **<NOFRAMES>**, press **[Enter]**, type **This page was designed to be viewed with frames. You can open individual pages using the <A HREF="navbar.htm">navigation bar</A>.**, press **[Enter]**, type **</NOFRAMES>**, press **[Enter]** twice, then type **</HTML>**

Figure F-7 shows the completed code for the frameset Web page. The text enclosed in the <NOFRAMES>..<NOFRAMES> tag pair appears in the window of a browser that does not support frames. Jaime's alternate text provides a link to the navigation bar, and ensures that users of older browsers still can access the entire site.

7. Save your work, click the **browser program button** on the taskbar, then open the file **nomad-f1.htm**

The browser displays both frames, as shown in Figure F-8. Notice that each frame includes a toolbar, allowing you to scroll one side of the screen without moving the other side's contents.

Separate HTML document contains contents of left frame

Separate HTML document contains contents of right frame

Frameset document specifies structure only

FIGURE F-7: Code for frameset file

```
<HTML>

<HEAD>
<TITLE>Nomad Ltd online</TITLE>
</HEAD>

<FRAMESET COLS="235,*" FRAMEBORDER="0">
   <FRAME SRC="navbar.htm" NAME="nav">
   <FRAME SRC="main.htm" NAME="main">
</FRAMESET>

<NOFRAMES>
This page was designed to be viewed with frames. You can open individual pages
using the <A HREF="navbar.htm">navigation bar</A>.
</NOFRAMES>

</HTML>
```
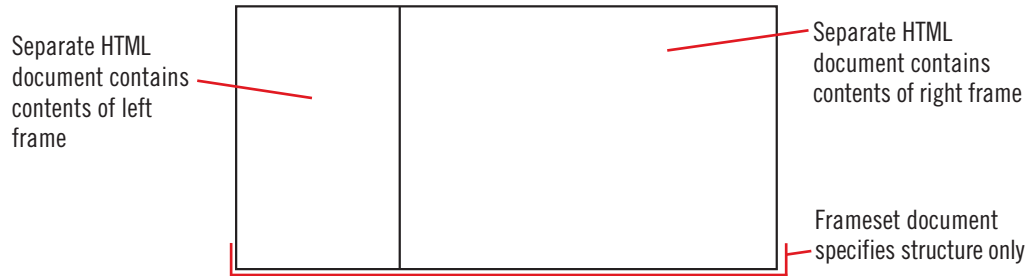
Mark frameset contents

Format alternate content for incompatible browsers

Specify frame source files and names

FIGURE F-8: Frames page in browser

Page layout specified by nomad-f1.htm

Left frame displays navbar.htm

Right frame displays main.htm

Each frame scrolls independently

TABLE F-1: Frame tags and attributes

tag(s)	description	attributes	function
\<FRAMESET\>.. **\</FRAMESET\>**	mark frameset contents and describe their layout	ROWS	defines number and sizes of horizontal frames to create
		COLS	defines number and sizes of vertical frames to create
		FRAMEBORDER	turns border between frames on or off; set to "0" or "no" to turn borders off
\<FRAME\>	specifies a frame's source file and name	SRC	defines location and filename for frame contents
		NAME	defines frame name for reference by hyperlinks
\<NOFRAMES\>.. **\<NOFRAMES\>**	define alternate page content for browsers that don't support frames; require no attributes		

HTML

Targeting Links

When you click a link in a standard Web page, your browser usually displays the linked page in place of the current one. In a page structured with frames, however, you can choose in which frame the linked page will open. This feature of frames has facilitated a popular frameset layout that fixes a page of links in one frame, and displays content in another frame. When users click a link, the content of the other frame changes, but the display of links is preserved for further navigation. HTML offers two methods for setting the location where a linked page opens. One option is to add the TARGET attribute to a link's <A> tag, and set this attribute equal to the name of the frame in which the linked page should open. You also can create a global setting for all of a page's links by adding the <BASE> tag to the page's head section, and assigning the tag the appropriate TARGET setting. Table F-2 explains TARGET values with special behaviors. Jaime wants the navigation bar to remain visible to users as they explore the Nomad Ltd Web site. He adds the <BASE> tag with the TARGET attribute to the page's head section. Then when navigation bar links are clicked, the target pages open in the right frame of the frameset.

Steps 1234

1. Make sure the file **nomad-f1.htm** is open in your browser, click a link in the navigation bar, then click the **Back button**
   When you click a link, the navigation bar is replaced by the link target file, construction.htm, and is no longer available in the frameset. By default, a linked page opens in the same frame as the link that opened it.

2. In your text editor, open the file **navbar.htm**

3. Locate the </TITLE> tag in the head section, click to the right of the closing >, press **[Enter]**, then type **<BASE TARGET="main">**
   Figure F-9 shows the Web page code containing the <BASE> tag. When he created the frameset file, Jaime assigned the name "main" to the frame on the right side of the screen. By setting the TARGET attribute in the <BASE> tag, Jaime allows users to click any link in the left frame—the navigation bar—to change the contents of the right frame.

4. Save your work, click the **browser program button** on the taskbar, then hold down **[Shift]** while you click your browser's **Reload** or **Refresh button**
   In a frameset, refreshing the page simply reloads the current pages in each frame. Holding down [Shift] while refreshing reloads the default pages specified in the frameset file.

5. Click a link from one of the unordered lists in the navigation bar
   As shown in Figure F-10, a linked page opens in the right frame, and indicates that the site is still under construction. The navigation bar remains in the left frame, allowing you to continue moving around the site.

6. Click your browser's **Back button**, then click one of the linked graphics in the right frame
   The "under construction" page opens in the right frame. Because Jaime's opening page for the right frame doesn't specify a TARGET value for the links, the linked pages open by default in the same frame, as Jaime intended.

```
<HTML>

<HEAD>
<TITLE>Nomad Ltd navigation bar</TITLE>
<BASE TARGET="main">
</HEAD>

<BODY BACKGROUND="images/eggshell.jpg">
```
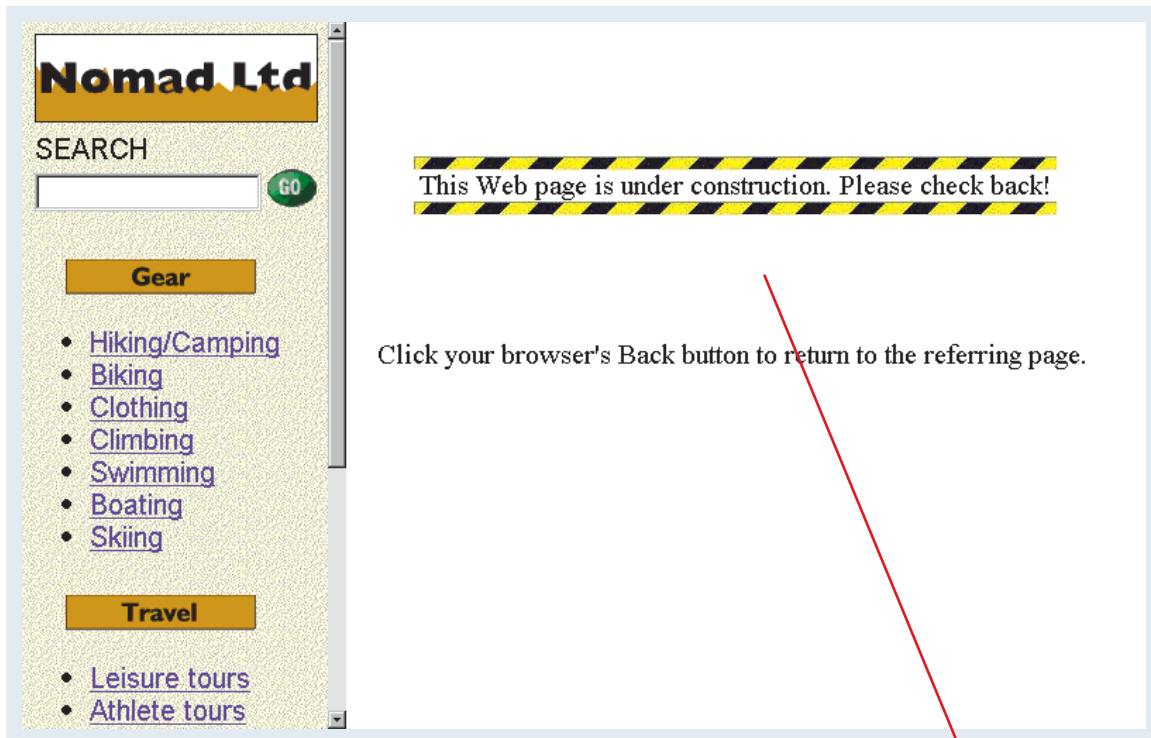
TARGET sets target
for all links in
HTML document

FIGURE F-10: Linked file opened in different frame

New page opened in right frame by
clicking link in left frame

TABLE F-2: Special values for the TARGET attribute

value	link behavior
_blank	opens in new browser window
_self	opens in current frame; this is the default setting
_parent	replaces current frameset; always include for links to pages outside your frameset
_top	replaces contents of current browser window

Formatting Frame Borders

Like most other Web page elements, frames support the attributes that change the frames' appearance in a browser. Several of these attributes are similar to those used to format tables. Although no borders appear between frames by default, you can use the FRAMEBORDER attribute in the <FRAMESET> tag to add them. Once a frameset includes borders, you can use other attributes to control border thickness and color, as well as the width of the margin between a frame's border and its contents. By default, Web page users can move the borders between frames to change the amount of the browser window that each frame occupies. If you want to make sure your layout remains fixed, you can add the NORESIZE attribute to <FRAME> tags to ensure that the frames remain the width or height you specified in the <FRAMESET> tag. Table F-3 describes several attributes available for formatting frames. Jaime wants to experiment with borders and border formats in his layout.

Steps 1 2 3 4

1. In your text editor, open **nomad-f1.htm**

2. Locate the opening <FRAMESET> tag, select the text **FRAMEBORDER="0"**, press **[Delete]**, then, if necessary, again press **[Delete]** or press **[Backspace]** to remove the extra space before the closing >

3. Save your work, click the **browser program button** on the taskbar, then hold down **[Shift]** while you reload **nomad-f1.htm**
   A vertical line marks the border between the two frames.

4. Move the pointer over the frame border, then click and drag to the right
   The pointer changes to a double arrow, indicating you can resize the frames. Dragging the border to the right resizes each frame.

5. In your text editor, locate the opening <FRAMESET> tag, click to the left of the closing >, press **[Spacebar]**, then type **BORDER="2" FRAMESPACING="2"**
   The BORDER and FRAMESPACING attributes change the thickness of borders between frames. Because each attribute is appropriate for different browsers, Jaime uses both with the same setting to ensure his frames appear similarly to all users.

6. Click to the left of the closing > in the first <FRAME> tag, press **[Spacebar]**, then type **NORESIZE**
   Figure F-11 shows the completed code for the frameset document. Adding the NORESIZE attribute to a <FRAME> tag prevents users from resizing that frame, as well as adjoining frames, in the browser window.

7. Save your work, click the **browser program button**, then hold down **[Shift]** while you reload **nomad-f1.htm**
   As shown in Figure F-12, the border between the two frames appears narrower.

8. Move the pointer over the frame border, then click and drag to the right
   Because you added the NORESIZE attribute to the left frame, the pointer does not change to a double arrow, and the frame border remains in its original location to maintain the frame sizes.

FIGURE F-11: Web page code for formatting frame borders

```
<HTML>

<HEAD>
<TITLE>Nomad Ltd online</TITLE>
</HEAD>

<FRAMESET COLS="235,*" BORDER="2" FRAMESPACING="2">
  <FRAME SRC="navbar.htm" NAME="nav" NORESIZE>
  <FRAME SRC="main.htm" NAME="main">
</FRAMESET>

<NOFRAMES>
This page was designed to be viewed with frames. You can open individual pages
using the <A HREF="navbar.htm">navigation bar</A>.
</NOFRAMES>

</HTML>
```

BORDER and FRAMESPACING attributes control border width in different browsers

NORESIZE fixes frame size

FIGURE F-12: Web page displaying border between frames

Thin border separates frames

TABLE F-3: Frame formatting attributes

tag	attribute	function	allowable values
<FRAMESET>	FRAMEBORDER	determines whether or not borders appear	"0" or "no" turns off borders; "1" or "yes" enables borders (the default setting)
	BORDER	specifies the space between frames in more recent browsers	a size in pixels
	FRAMESPACING	specifies the space between frames in older browsers	a size in pixels
	BORDERCOLOR	customizes color of lines separating frames	hexadecimal color value or corresponding color name
<FRAME>	MARGINHEIGHT	specifies space between frame contents and top and bottom borders	a size in pixels
	MARGINWIDTH	specifies space between frame contents and left and right borders	a size in pixels
	NORESIZE	prevents users from changing a frame's dimensions	requires no value; the presence of NORESIZE enables this option
	SCROLLING	controls the appearance of the frame's scrollbars	"yes" always includes scrollbars; "no" prevents scrollbars from appearing; when attribute is absent, scrollbars appear only as needed

Creating a Structuring Table

Besides using frames, you also can lay out a Web page in a grid by using a structuring table. This method reverses the way you are used to working with tables. Rather than including a table as one of a Web page's elements, you include all the page elements within one large table. A structuring table offers positioning benefits similar to frames, yet it simplifies for your users some of the practical aspects of working with the Web page. Jaime decides to try his layout in a structuring table, to compare its appearance with frames. Some areas of his Web page are already positioned using their own tables. These tables will in turn be the contents of individual cells in the structuring table, making them **nested tables**.

Steps 1234

QuickTip

A few cells in the nested tables use the closing </TD> tag; while this tag is normally unnecessary, without it the contents of nested tables can unpredictably appear in some browsers.

1. In your text editor, open the file **HTM F-2.htm**, then save it as **nomad-f2.htm**
Jaime created this file by pasting the contents of both frames from the frameset into a single HTML document. He also indented each line six extra spaces—two each for the <TABLE>, <TR>, and <TD> tags in which each element will be nested.

2. Click in the blank line beneath the opening <BODY> tag, press **[Enter]**, type **<TABLE BORDER CELLSPACING="0">**, then press **[Enter]**
Although a borderless structuring table is usually the most effective for layout, Jaime temporarily turns on the borders to facilitate the creation and editing process.

3. In the blank line below the <TABLE> tag you just entered, press **[Spacebar]** twice, then type **<TR>**

4. Locate the <FONT> tag, click to the left of the opening <, then type **<TD WIDTH="235">**
Figure F-13 shows the opening code for the structuring table.

5. Locate the <IMG> tag for the graphic welcome.jpg, click to the left of the opening <, then type **<TD VALIGN="top">**
Because Jaime does not specify a WIDTH value for the second column, it will occupy the remaining width of the browser window.

QuickTip

Just as in a table with other contents, you can include multiple rows in a structuring table.

6. Click the blank line above the closing </BODY> tag, press **[Enter]**, press **[Spacebar]** twice, type **</TR>**, press **[Enter]**, type **</TABLE>**, then press **[Enter]**
Figure F-14 shows the code for the right column, and the closing code for the structuring table.

7. Save your work, click the **browser program button** on the taskbar, then open the file **nomad-f2.htm**
The layout is nearly identical to the one Jaime created with frames.

8. In your text editor, scroll to the <TD> tag for the left cell in the structuring table near the top of the document, select the number **235**, press **[Delete]**, then type **220**
Because the cell containing the navigation bar doesn't need to be as wide as the frame that contained it in the frameset, Jaime tries a lower WIDTH setting.

9. Save your work, click the **browser program button** on the taskbar, then open the file **nomad-f2.htm**
As shown in Figure F-15, the structuring table re-creates the layout of the frameset.

```
</HEAD>

<BODY>

<TABLE BORDER CELLSPACING="0">
   <TR>
      <TD WIDTH="235"><FONT FACE="arial, helvetica, sans serif">
         <TABLE>
            <FORM NAME="sitesearch">
```

Opening table and row tags, and tag for first cell

FIGURE F-14: Additional Web page code for structuring table

```
      <H5>updated August 24, 2002</H5>

   <TD VALIGN="top"><IMG SRC="images/welcome.jpg" ALT="Welcome to Nomad Ltd
online" WIDTH="540" HEIGHT="100">

      <TABLE CELLSPACING="0" CELLPADDING="0" BORDER="0" BGCOLOR="#B0E0E6"
```

Tag for second table cell

```
            <A HREF="construction.htm"><IMG SRC="images/skibar.jpg" WIDTH="500"
HEIGHT="63" BORDER="0" ALT="Ski off into the sunset - Fall into Winter sale,
October 3-8"></A>

         </TR>
      </TABLE>

   </BODY>
```

Closing row and table tags

FIGURE F-15: Web page laid out with structuring table

Frames vs. Tables

Frames and tables both have strengths and weaknesses for Web page layout. Frames offer several features that tables can't match—independently scrolling window areas and decreased bandwidth demands. Most professional Web designers, however, find that the practical advantages of tables outweigh the benefits of frames. Because all the page contents of a table layout are contained in one HTML file, table layouts are easier for users to print, and they provide more accurate data for search engine indexes. Additionally, while a browser's address bar always displays the name and location of the frameset file (regardless of which content pages are open in the frames), the URL for a page structured with a table always describes the exact location of the current content. This characteristic is especially important to accurately bookmark pages for later use. While frames are a valuable tool in your HTML toolbox and are appropriate for certain applications, tables are often the best choice for creating Web page layouts.

Adding a Two-Toned Background

When you create a page with frames, it's easy to distinguish the contents of separate frames by formatting each frame's background with a different graphic or color. The process for differentiating cell contents in a structuring table, however, is more restricted. While the <FRAME> tag supports settings for background images or color, not all browsers can display a background image for a table cell. Different colored cell backgrounds are a fine choice for many layouts. However, tables are always separated from the window edges by a margin of space, so Web designers have invented other solutions to create a frames-like layout. One of the most popular solutions is to use a customized graphic as the background for the entire page. By matching the measurements of the structuring table cells, the graphic can display a background image—usually in a vertical strip—behind the appropriate part of the Web page. Jaime wants to include a background behind the navigation bar (as he did in the frames version of the page), in order to set it clearly apart from the rest of the page.

Steps 1 2 3 4

1. In your text editor, locate the <TD> tag for the first table cell, click to the left of the closing >, press **[Spacebar]**, then type **BGCOLOR="#DAC79E"**
   Jaime experiments first with adding a background color to the navigation bar cell.

2. Save your work, click the **browser program button** on the taskbar, then reload **nomad-f2.htm**
   As Figure F-16 shows, the table displays the background color only within the borders of the navigation bar cell.

3. In your text editor, select the text **BGCOLOR="#DAC79E"** that you typed, press **[Delete]**, again press **[Delete]**, or press **[Backspace]** if necessary, to remove the extra space

4. Locate the opening <BODY> tag, click to the left of the closing >, press **[Spacebar]**, then type **BACKGROUND="images/tablebg.jpg"**

5. Save your work, click the **browser program button** on the taskbar, then reload **nomad-f2.htm**
   The background image appears behind the contents of the left column only. Because browsers normally tile images to cover the entire Web page background, the Nomad Web design team set up the dimensions of this image to be wider than a normal browser window. The background pattern appears in the left edge of the image. The rest of the image is blank, ensuring that the background pattern appears behind only one column.

6. In your text editor, locate the opening <TABLE> tag for the structuring table, click to the right of the word BORDER, then type **="0"**
   Figure F-17 shows the completed code for the Web page. Because he has finished setting up the page, Jaime turns off borders on the structuring table to view the page's final appearance.

7. Save your work, click the **browser program button** on the taskbar, then reload **nomad-f2.htm**
   Figure F-18 shows the final appearance of Jaime's Web page.

Color appears only within cell borders

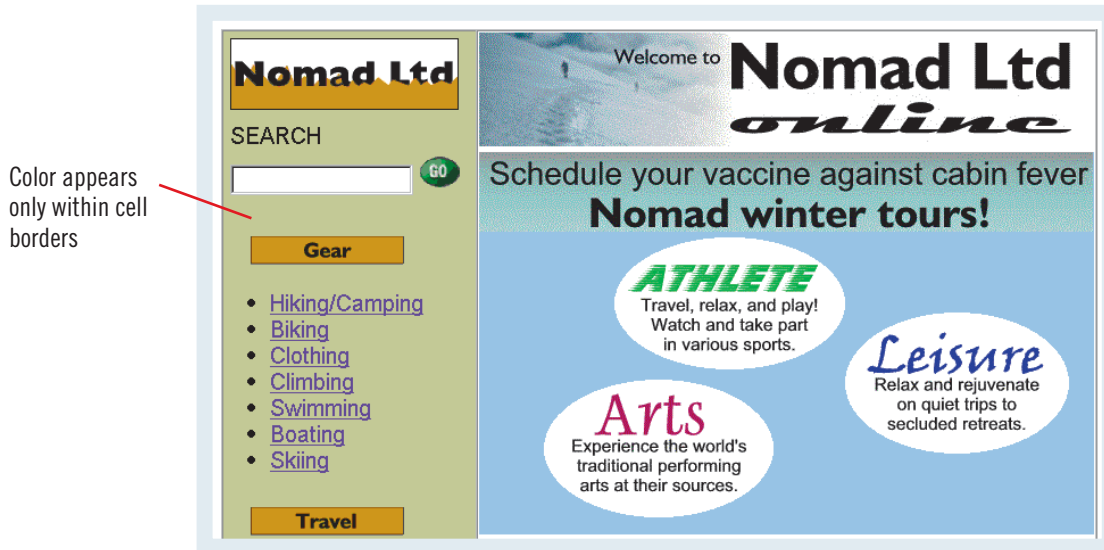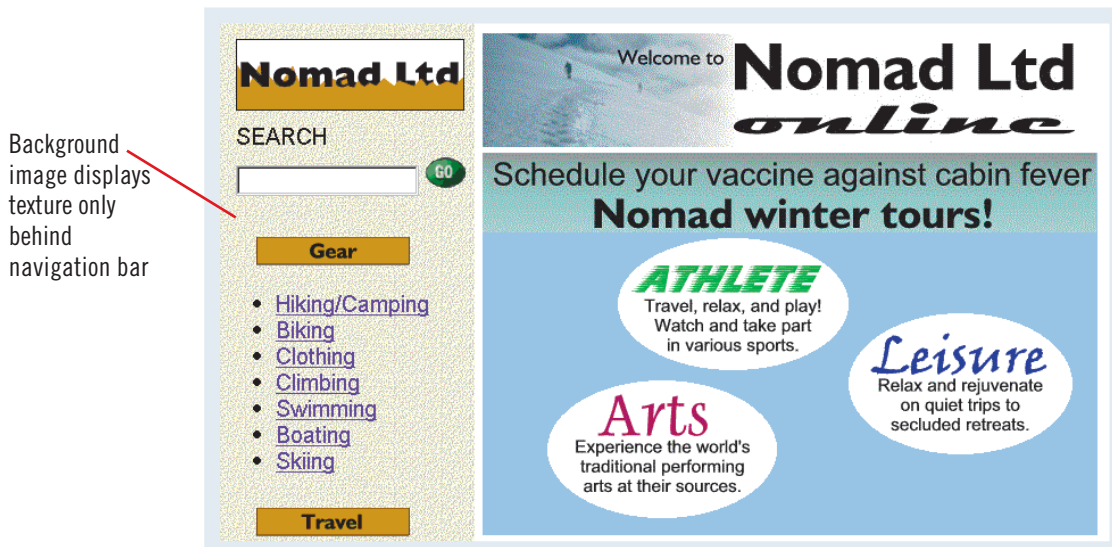FIGURE F-17: Web page code containing final changes for background and border

Adds back-ground image behind navigation bar only

```
<HEAD>
<TITLE>Nomad Ltd online</TITLE>
</HEAD>

<BODY BACKGROUND="images/tablebg.jpg">

<TABLE BORDER="0" CELLSPACING="0">
   <TR>
      <TD WIDTH="220"><FONT FACE="arial, helvetica, sans serif">
```

Removes borders from structuring table

FIGURE F-18: Final Web page layout with structuring table

Background image displays texture only behind navigation bar

Creating a Template

Once you finalize your site layout with a structuring table, it's important to uniformly implement the layout on all your Web site's pages. Rather than reentering the code for common elements for every page in your site, however, you can facilitate the application of your design by creating a template. A **template** contains the Web page code for the page's structure, along with any text or other elements that appear on every page. You can create a template by removing the page-specific items from your original layout. It also is good practice to add comments to the code, so that anyone using the template clearly understands where to insert their own page-specific elements. You then can use the template as a starting point to create each additional page for the Web site. After he presented his samples of both options and explained the advantages and drawbacks of each, Jaime's Web design team decided to use his structuring table design for the entire Nomad Web site. Jaime wants to create a template from his Web page to make the team's work on the site more efficient, and to ensure that each team member implements the same layout.

Steps 1234

1. In your text editor, save a copy of **nomad-f2.htm** as **nltemp-f.htm**

2. Locate the <BODY> tag, click the blank line below the tag, press **[Enter]**, type **<!-- Web page structuring table, one row by two columns -->**, then press **[Enter]**

3. Locate the <TR> tag for the structuring table, click to the right of the closing >, press **[Enter]** twice, type **<!-- first column - site-standard navigation bar -->**, then press **[Enter]**
   Figure F-19 shows the Web page code containing the first two comments.

4. Click the blank line below the text updated August 24, 2002, press **[Enter]**, type **<!--second column - page-specific content -->**, then press **[Enter]**

5. Click and drag to select the text shown in Figure F-20, beginning with the **<IMG>** tag for the graphic welcome.jpg and ending with the **</A>** tag for the graphic skibar.jpg, then press **[Delete]**
   Figure F-21 shows the end section of the template with page-specific content removed. Jaime deleted the contents of the right column in the structuring table, leaving just the <TD> tag for the cell.

6. Save your work, then close your text editor and browser

FIGURE F-19: Opening comments in Web page template code

Comments describing page layout components

```
<BODY BACKGROUND="images/tablebg.jpg">

<!-- Web page structuring table, one row by two columns -->

<TABLE BORDER="0" CELLSPACING="0">
  <TR>

<!-- first column - site-standard navigation bar -->

    <TD WIDTH="220"><FONT FACE="arial, helvetica, sans serif">
```

FIGURE F-20: Template code showing content to delete

Comments marking page-specific cell tag

Page-specific content to delete

```
      <H5>updated August 24, 2002</H5>

<!--second column - page-specific content -->

    <TD VALIGN="top"><IMG SRC="images/welcome.jpg" ALT="Welcome to Nomad Ltd
online" WIDTH="540" HEIGHT="100">

      <TABLE CELLSPACING="0" CELLPADDING="0" BORDER="0" BGCOLOR="#B0E0E6"
WIDTH="541">
        <TR>
          <TD COLSPAN="2"><A HREF="construction.htm"><IMG
SRC="images/gradient.jpg" WIDTH="540" HEIGHT="70" BORDER="0" ALT="Schedule
your vaccine against cabin fever - Nomad  winter tours!"></A>
        </TR>

        <TR>
          <TD ALIGN="right" WIDTH="300"><A HREF="construction.htm"><IMG
SRC="images/athlete.gif" WIDTH="203" HEIGHT="116" ALT="Athlete"
BORDER="0"></A></TD>
          <TD ROWSPAN="2" ALIGN="left" VALIGN="center"><A
HREF="construction"><IMG SRC="images/leisure.gif" WIDTH="197" HEIGHT="124"
ALT="Leisure" BORDER="0"></A>
        </TR>

        <TR>
          <TD HEIGHT="145" ALIGN="center"><A HREF="construction.htm"><IMG
SRC="images/arts.gif" WIDTH="202" HEIGHT="121" ALT="Arts" BORDER="0"></A>
        </TR>
      </TABLE>

      <BR>

      <A HREF="construction.htm"><IMG SRC="images/skibar.jpg" WIDTH="500"
HEIGHT="63" BORDER="0" ALT="Ski off into the sunset - Fall into Winter sale,
October 3-8"></A>

    </TR>
</TABLE>
```
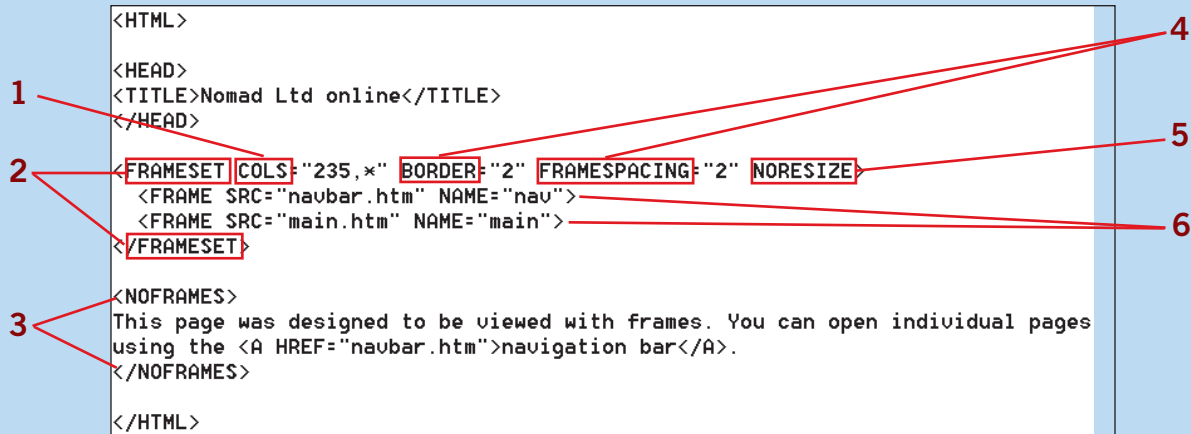
FIGURE F-21: Template code with page-specific content deleted

```
      <H5>updated August 24, 2002</H5>

<!--second column - page-specific content -->

    <TD VALIGN="top">

  </TR>
</TABLE>
```

Practice

► Concepts Review

Describe the function of each tag and attribute marked in Figure F-22.

FIGURE F-22

```
<HTML>

<HEAD>
<TITLE>Nomad Ltd online</TITLE>
</HEAD>

<FRAMESET COLS="235,*" BORDER="2" FRAMESPACING="2" NORESIZE>
  <FRAME SRC="navbar.htm" NAME="nav">
  <FRAME SRC="main.htm" NAME="main">
</FRAMESET>

<NOFRAMES>
This page was designed to be viewed with frames. You can open individual pages
using the <A HREF="navbar.htm">navigation bar</A>.
</NOFRAMES>

</HTML>
```

1
2
3
4
5
6

Match each term with its description.

7. **Template**
8. **Frameset**
9. **Frame**
10. **Grid**
11. **Navigation bar**

a. A file specifying the organization of frame files within the browser window
b. A set of links to the home page and main sections of a Web site, and which appears on every page
c. A tool containing the Web page code for the structural and content elements that appear on all the pages in a Web site
d. A window within a frameset, which displays a separate HTML document
e. A set of columns and rows that positions and groups a page's elements

Select the best answer from the list of choices.

12. **In a Web page laid out with frames, each frame displays**
    a. The contents of a separate Web document.
    b. The contents of a table cell.
    c. A hyperlinked page.
    d. The same Web document.

13. **Which tag would you use to set all of a frame's links to open in a different frame?**
    a. <BODY>
    b. <HEAD>
    c. <BASE>
    d. <!--

14. **Which attribute do you use to name a frame?**
    a. ID
    b. NAME
    c. TITLE
    d. TARGET

15. **What is the function of the FRAMEBORDER attribute?**
    a. Determines whether or not borders appear
    b. Specifies the space between frames
    c. Specifies space between frame contents and top and bottom borders
    d. Specifies space between frame contents and left and right borders

16. **What is the function of the BORDER and FRAMESPACING attributes?**
    a. Determine whether or not borders appear
    b. Specify the space between frames
    c. Specify space between frame contents and top and bottom borders
    d. Specify space between frame contents and left and right borders

17. **To add a background image to a section of the screen, rather than to a table cell, when you use a structuring table, you reference a special graphic file in which tag?**
    a. <TABLE>
    b. <TR>
    c. <TD>
    d. <BODY>

18. How many HTML files would you need in order to create a frameset that displays three frames?
    a. One
    b. Two
    c. Three
    d. Four

19. Which tag defines an individual frame?
    a. <TABLE>
    b. <FRAME>
    c. <FRAMESET>
    d. <NOFRAMES>

► Skills Review

1. Create a navigation bar.
    a. Start your text editor, open the file HTM F-3.htm, then save it as cco-nav.htm.
    b. Use <A>..</A> tags with the HREF attribute to format the graphic cco.gif, and the text "Home" in the first list item in the unordered list, as links to the file cco-main.htm.
    c. Format the text for the remaining list items as links to the file construction.htm.
    d. Save your work, start your Web browser, cancel any dial-up operations, then open the file cco-nav.htm.

2. Create a frameset.
    a. In your browser, open the file cco-main.htm.
    b. In your text editor, open a new document, and save it as cco-f1.htm.
    c. Enter the opening tags for the document, head, and body, including the page title "Crystal Clear Opticals".
    d. In the page's body section, enter the opening tag for a frameset with two frames and no border; the width of the first frame should be 240 pixels, and the second frame should occupy the remaining space.
    e. Below the frameset tag, add a tag for each of the frames on an indented line. The source of the first frame is the file cco-nav.htm, and it should be named nav; the source of the second frame is the file cco-main.htm, and it should be named main.
    f. Add the following text to the page, formatted to appear only to users whose browsers do not support frames: "This page was designed to be viewed with frames. You can open individual pages using the <A HREF="cco-nav.htm">navigation bar</A>."
    g. Save your work, click the browser program button on the taskbar, then open the file cco-f1.htm.

3. Target links.
    a. Make sure the file cco-f1.htm is open in your browser, click a link in the navigation bar, then click the Back button.
    b. In your text editor, open the file cco-nav.htm.
    c. Add HTML code to the page's head section. The code should target all links in the navigation bar to open in the frame named main.
    d. Save your work, click the browser program button on the taskbar, then hold down [Shift] while you click your browser's Reload or Refresh button.
    e. Click a link in the navigation bar.

4. Format frame borders.

    a. In your text editor, open the file cco-f1.htm.

    b. In the opening tag for the frameset, remove the attribute that suppresses frame borders.

    c. Add HTML code to the document to display a two-pixel border between frames in all compatible browsers.

    d. Add HTML code to the document to prevent users from changing frame sizes.

    e. Save your work, click the browser program button on the taskbar, then hold down [Shift] while you reload cco-f1.htm.

5. Create a structuring table.

    a. In your text editor, open the file HTM F-4.htm, then save it as cco-f2.htm.

    b. At the beginning of the page's body section, add an opening table tag that includes the HTML code to display table borders and which sets the space between cells to zero.

    c. In the line below the opening table tag you just entered, indent two spaces and enter an opening row tag. On the next line indent four spaces and enter an opening table cell tag.

    d. Scroll down to the blank line above the opening table tag for the borderless table below the navigation bar section, indent four spaces, then add a table cell tag.

    e. In the blank line above the closing tag for the page's body section, insert two spaces, enter a closing row tag, then insert a new line and enter the closing table tag.

    f. Save your work, click the browser program button on the taskbar, then open the file cco-f2.htm.

6. Add a two-tone background.

    a. In your text editor, edit the table tag for the first cell in the structuring table to include the background color #A8A8A5.

    b. Save your work, click the browser program button on the taskbar, then reload the file cco-f2.htm.

    c. In your text editor, remove the code for the background color that you inserted, then add code to the opening body tag to use the graphic graybg.jpg (located in the images folder) as the page background.

    d. Save your work, click the browser program button on the taskbar, then reload the file cco-f2.htm.

    e. In your text editor, edit the opening table tag for the structuring table and make the borders invisible.

    f. Save your work, click the browser program button on the taskbar, then reload cco-f2.htm.

7. Create a template.

    a. In your text editor, save a copy of cco-f2.htm as ccotmp-f.htm.

    b. Add a comment below the opening tag for the body section, stating that the following section is the page's structuring table.

    c. Add a comment before the tag for the first cell in the structuring table that describes the column and contents that follow.

    d. Add a comment before the tag for the second cell in the structuring table that describes the column and its contents.

    e. Delete the text that appears after the tag for the second cell in the structuring table and before its closing row tag (the text to delete begins with "<TABLE WIDTH="520">", and ends with "</TABLE>").

    f. Save your work, click the browser program button on the taskbar, open the file ccotmp-f.htm, then close your text editor and browser.

► Independent Challenges

1. You maintain a Web site for your computer consulting business, Star Dot Star. To advertise your Web design expertise, you decide to redesign your site by using a structuring table and incorporating a navigation bar.

To complete this independent challenge:

a. Use a borderless table to create a navigation bar based on the bulleted list in the file HTM F-5.htm. Include the logo graphic in the file sds.jpg in your layout, and save your work with the filename sds-f.htm.

b. Lay out your Web page using a structuring table with one row and two columns; the navigation bar should appear in the left column, and the contents of the file HTM F-6.htm should appear in the right column. Use the graphic file sdsbg.jpg as the page's background image.

c. Create a template from your file for the site's remaining pages, and save it with the name sdstmp-f.htm. Be sure to include comments for other designers who might use the template.

2. You are part of the Web site maintenance team in your job at Metro Water, the local water supplier. As you continue to add more pages to the Web site, you decide to redesign the page to include a navigation bar and a consistent layout between pages by using a structuring table.

To complete this independent challenge:

a. Use a borderless table to create a navigation bar based on the bulleted list in the file HTM F-7.htm; include the logo graphic in the file mw.gif in your layout, and save your work with the filename mw-f.htm.

b. Lay out your Web page using a structuring table with one row and two columns; the navigation bar should appear in the left column, and the contents of the file HTM F-8.htm should appear in the right column. Use the graphic file waterbg.jpg as the page's background image.

c. Create a template from your file for the site's remaining pages, and save it with the name mwtemp-f.htm. Be sure to include comments for other designers who might use the template.

3. You have created and implemented an HTML-based in-store information system for your video store, Film Clips. To make the site easier for customers to use, you decide to standardize the layout of all pages and add a navigation bar. Because the system is used only in your store, and bookmarking and printing are not issues, you decide to implement your design with frames.

To complete this independent challenge:

a. Create a Web page to serve as the navigation bar, saving it with the name fc-nav.htm. Include the Film Clips logo, which is provided in the graphic file fclogo.gif in the images directory. Divide the links into three sections—Videos, Games, and About Film Clips. Each section should include links to at least four subcategories (for example, Videos can include sublinks to different film genres).

b. Create a home page to appear in the right frame of your frameset, and save it with the name fc-main.htm. Include at least one topical clipart image; make up text you might expect to find on such a page.

c. Create a frameset file for the site, saving it with the name fc-f.htm. Size the frames as is appropriate, and turn on and format borders if you wish.

d. Preview the file fc-f.htm in your browser, then make changes to the component files as necessary. Be sure to format at least one of the frame files with a background color or image.

WEB WORK

4. Although frames have advantages over structuring tables in some circumstances, their use in well-designed Web pages is rare. Ever since their introduction in an HTML revision, frames have generated heated debate among Web designers and users; some people still have strong feelings on the issue, both pro and con.

To complete this independent challenge:

a. Connect to the Internet and use a search engine to find and view Web pages that argue for and against using frames in Web page design. Use your favorite search engine, or one of the following:
   www.google.com
   www.lycos.com
   www.hotbot.com
   If you have trouble locating a search engine, go to www.course.com, navigate to the page for this book, click the link for the Student Online Companion, click the link for this unit, and use the links listed there as a starting point for your search.
b. Read at least four pages that argue one side or the other of this issue, then write a paragraph summarizing each viewpoint; for each page include the URL, information about the author, whether they argue for or against frames, and the points they make to support their argument.
c. Write an additional paragraph or two giving your opinion of designing Web pages with frames in light of what you've read; reference specific Web pages, this text, or your own experience to support your points.
d. Disconnect from the Internet.

► Visual Workshop

You are updating the layout for the Web site you created in your job at Touchstone Booksellers. Create the layout shown in Figure F-23, using your choice of either frames or a structuring table. The navigation bar graphic, book.gif, and the graphic in the main page section, bookfair.gif, are located in the images folder. For a structured table, use the file tsbbg.jpg as the background; for frames, use color #8F8FBD. In either layout, the khaki color behind the text in the main page is #9F9F39. Save the table or frameset file with the name tsb-f.htm. If you create a frameset, save the navigation bar frame with the filename tsb-nav.htm. Save the main frame with the filename tsb-main.htm.

FIGURE F-23